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LIST OF MANUSCRIPT BIBLIOGRAPHIES IN CHEMISTRY AND CHEMICAL TECHNOLOGY

Compiled for Research Information Service, National Research Council

By CLARENCE J. WEST AND CALLIE HULL

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Engineering
J. I. B.

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NUMBER 36

MANUSCRIPT BIBLIOGRAPHIES IN CHEMISTRY AND CHEMICAL TECHNOLOGY

Compiled by Clarence J. West and Callie Hull

There exist many unpublished, or manuscript, bibliographies for scientific subjects which, if known and made available to investigators, would be effectively utilized. In view of this fact the Research Information Service, in coöperation with the Divisions of Science and Technology of the National Research Council, has undertaken to compile lists of manuscript bibliographies in the mathematical, physical, and biological sciences. A list for geology and geography has already been published as No. 27 in the Council's Reprint and Circular Series.¹

The list presented for chemistry and chemical technology, although incomplete, should prove useful. It is hoped that it may also encourage those who possess unpublished bibliographies, as well as those who are in need of bibliographic lists, to coöperate with the Research Information Service by reporting their bibliographies and by inquiring as to the existence and availability of lists before undertaking independent compilation.

The fact that the information concerning each bibliography included in this list—period covered, method of entry and approximate completeness—is taken directly from the reports supplied to the Research Information Service, accounts for the incompleteness of the data in certain cases and for the evaluation of materials.

The Research Information Service is prepared to serve as a clearing house in connection with scientific and technological bibliographies. Those who prefer, however, may correspond directly with the compiler of any given bibliography and, unless otherwise indicated, may assume that the compilers listed have indicated willingness to have their material consulted or duplicated. Ordinarily a copy of any bibliography may be obtained for the actual cost of duplication.

The Research Information Service will welcome corrections or additions to this list and suggestions concerning the further development of a bibliographic exchange.

¹Dr. H. P. Little has kindly consented to the incorporation into the present list, of material of chemical value contained in his list.

Acenaphthene:

The Barrett Co., 40 Rector St., New York, N. Y. 174 entries, by author and subject. 1864-date. Abstracts included.

Acrolein:

Preparation and properties. L. H. Flett and J. L. Parsons, Rye, N. H. 100 entries. 1840-1917. French, German, and English literature thoroughly covered.

Adsorption:

Variation of adsorption from solutions with hydrogen-ion concentration. Neal E. Gordon, University of Maryland, College Park, Md. Entries by author, title, and subject. 1909-1921. Abstracts included in some cases. One-half complete.

See also Gas (Baker).

Agricultural Chemistry:

Homer J. Wheeler, 111 Grant Ave., Newton Centre, Mass. 1892-date. Abstracts included.

Air Pollution:

Charles Baskerville. Incomplete.³ For consultation, write Library, College of the City of New York, New York, N. Y.

Alcohol:

C. C. Stewart, Hanover, N. H. 400 or 500 entries, by author and title. Fairly complete up to 1897. Abstracts included in some cases.

Alcohol, its manufacture and utilization as a motor fuel. E. H. Leslie, University of Michigan, Ann Arbor, Mich. Fairly complete.

Alloys:

Alloy steels and ferro-alloys. Clarence Estes. 4567 entries, classified by elements. For consultation, write Dr. F. B. Dains, University of Kansas, Lawrence, Kan.

Aluminium:

Aluminium and aluminium alloys. Robert J. Anderson, Bureau of Mines, Pittsburgh, Pa. 1000 entries, by author, title, and subject. 1800-1922. 95 per cent complete.

Amalgams:

M. G. Mellon, Department of Chemistry, Purdue University, Lafayette, Ind. 400 entries, by author. 1750-1920.

Amino-o-phthalic Acid:

See Phthalic Acid (Bogert).

Ammonium Nitrate:

Physical and chemical properties. H. W. Baker, Telling-Belle Vernon Co., Research Laboratory, Cleveland, Ohio. 75 entries, classified according to properties. 1837-1918. Abstracts included with tables. Complete survey of English and German abstract journals, with original articles consulted as far as possible. Mimeograph copies obtainable from Dr. C. E. Munroe, National Research Council, Washington.

Ammonium Sulfate:

Ammonium sulfate as a fertilizer, and its effectiveness in comparison with other nitrogenous fertilizers. M. I. Wolkoff, Agricultural Experiment Station, Urbana, Ill. Fairly complete up to 1919.

Anesthetics:

Anesthetics, ether, chloroform, etc., including all known substances used for anesthesia. Charles Baskerville. To be published in new edition of "Anesthesia" by Baskerville and Gwathmey. For consultation, write to Dr. James T. Gwathmey, 40 East 41st St., New York, N. Y.

Anthocyan:

Andrew Neff, 5520 Blackstone Ave., Chicago, Ill. 120 entries, by author. 1850-1920. Fair from chemical point of view. Copy in University of Chicago Library.

Anthraquinone:

See Drugs (Gunton and Okey).

Antimony:

Chemistry, analysis, etc., of antimony. Elton R. Darling, James Millikin University, Decatur, Ill. 2500 to 3000 entries, by author, title, and subject. Nearly complete up to date. Abstracts included in part.

³ Biographies by Dr. Baskerville are incomplete owing to his recent death.

Arsphenamine:

Fulton B. Flick, Iowa State College, Ames, Iowa. 350 entries. Up to March 1921. Very few abstracts included. Quite complete as regards chemistry of the drug, and covers much of application and action.

Asphaltic Cements:

Oxidation of asphaltic cements. H. P. Newton, Georgetown, Ky. Up to 1920.

Autolysis:

Bacterial autolysis. William Shelton Sturges, Cudahy Packing Co., Omaha, Neb. 80 entries by author and title. 1890-1918. Abstracts included. 85 per cent complete. Copy in Yale University Library.

Bagasse:

Use for fuel and paper. Arthur D. Little, Inc., Cambridge, Mass. 32 entries, by author.

Baking Chemistry:

See Wheat Milling (Bailey).

Barium Sulfide:

Barium sulfide manufacture and reduction of barium sulfate. Engineering Societies Libraries, New York, N. Y. 34 entries. 1898-1918. Abstracts included.

Beet Products:

See Coloring Matters (Zerhaw).

Blood:

Analysis of blood. H. A. Mattill, University of Rochester, Rochester, N. Y. 400 entries, by subject. 1917-date. Abstracts included in perhaps half the entries. 75 per cent complete.

Methods for analysis of blood. N. W. Rakestraw, Stanford University, Calif. 400 entries, by author and subject. Up-to-date. Abstracts included in most cases. Will be as complete as possible, covering both domestic and foreign literature available. Unavailable at present.

Botany:

See Pharmaceutical Chemistry (Army).

Butyric Acid:

Analysis of butyric acid. Grasselli Chemical Co., Cleveland, Ohio. 24 entries. Abstracts included.

Calorimetry:

See Metabolism (Armsby).

Candelilla Wax:

Arthur D. Little, Inc., Cambridge, Mass. 18 entries, by author.

Cane Products:

See Coloring Matters (Zerhaw); Bagasse (Little).

Carbon:

Carbon electrodes. *See* Pitch Coke (The Barrett Company); Electrochemistry (Union Carbide & Carbon Research Laboratories).

Manufacture of carbon black. H. J. Masson, New York University, New York, N. Y. 200 entries, by author. Up-to-date. Complete as possible.

Carbon Monoxide:

Formation of carbon monoxide by burning gas flames. P. A. McCarty. 90 entries. 1870-1917. For consultation, write Department of Chemistry, Ohio State University, Columbus, Ohio.

Casein:

H. Stirling Snell, Grand Haven, Mich. 300 entries, by title. 1869-date. Abstracts included in some cases. Fairly complete, with patent references, 1918-date.

Castor Oil:

Physical and chemical characteristics of castor oil. F. W. Willard, 410 West School Lane, Germantown, Philadelphia, Pa. Entries by author and subject. 1825-1910. Abstracts included in part. 80 per cent complete.

Cement:

Cements involving the sorrel reaction. H. G. Schurceht, Bureau of Mines, Ceramic Experiment Station, Columbus, Ohio. 75 per cent complete.

See also Asphaltic Cements (Newton); *Potash* (Western Precipitation Company).

Chemical Education:

Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemical Literature:

Card index to chemical literature. Patent Office, Washington, D. C. Contains nearly a million cards and covers the entire field of chemical literature. See House Document No. 1110, 62nd Congress, 3rd Session, Appendix K, pp. 599-618, for description.

Chemical Warfare:

Clarence J. West, National Research Council, Washington, D. C. 1500 entries, by author. Two-thirds complete.

Chemistry:

Charles E. Mullin, care of E. and L. Co., 3rd and Jackson Sts., Camden, N. J. 30,000 entries. 1907-date. Especially strong on textile chemistry and dyeing.

Chemistry and civilization. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemistry and life. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Chemistry and municipalities. Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

See also Volumetric Chemical Analysis (Andrews).

Chemists:

Portraits of chemists. F. B. Dains and Clarence J. West. 400 entries, by subject. For consultation, write C. J. West, National Research Council, Washington, D. C.

Chloropicrin:

See Insecticides and Fungicides.

Cholesterol:

Cholesterol and fats in their relation to it. Lloyd Arnold, Loyola Medical School, 706 S. Lincoln St., Chicago, Ill. 1500 entries. 1850-1914. Abstracts included. Complete for period covered.

Citric Acid:

Use of citric acid; its salts and esters. The Barrett Co., 40 Rector St., New York, N. Y. 114 entries, by author.

Citrus Fruits:

Citrus fruits and their products. C. P. Wilson, Box 518, Corona, Calif. 250 entries, mostly by subject. 1910-date. Abstracts included. 50 per cent complete.

Clay:

Chemical and physical properties, testing, etc., of clay. Clarence J. West, National Research Council, Washington, D. C. 600 entries, by author. One-half complete.

Clays and ceramic arts. J. C. Branner. Additions to "Bibliography of Clays and the Ceramic Arts" published in 1906. Entries by author. For consultation write Division of Geology and Geography, National Research Council, Washington, D. C.

See also Refractories (Schurecht).

Coal:

Library of Congress, Washington, D. C. 105 entries, by author. Up to 1920.

Storage of coal. Library of Congress, Washington, D. C. 138 entries, by author. Up to 1920.

See also Low Temperature Carbonization (The Barrett Company).

Coal Tar:

Physical constants of coal-tar derivatives. The Barrett Co., 40 Rector St., New York, N. Y. Entries by subject. Figures copied from original source.

Special coal-tar constituents. The Barrett Co., 40 Rector St., New York, N. Y. 80 entries. 1870-date. Abstracts included.

Colloid Chemistry:

Harry N. Holmes, Oberlin College, Oberlin, Ohio. 1500 and more entries. 1870–date. Brief abstracts often included.

Colloids in geology and mining. Thorndike Saville. 89 entries. Very complete to 1917. For consultation, write R. W. Sayles, Harvard University, Cambridge, Mass.

Coloring Matters:

Coloring matters in beet and cane products. F. W. Zerhaw, Marrero, La. 105 entries, by author. 1890–date. Considered fairly complete.

Combustion Chemistry:

See Industrial Chemistry (Strong).

Corrosion:

Corrosion and its prevention. Nathan Van Patten, Massachusetts Institute of Technology. 1300 entries, by author. Up to 1921. Two-thirds complete.

Corrosion of metals. Clarence J. West and Callie Hull. 2000 entries, by author and subject. Three-fourths complete. For consultation, write Division of Research Extension, National Research Council, Washington, D. C.

Corrosion of metals by water and foaming in steam boilers. Marion Hollingsworth. 500 entries. Up to 1915. For consultation write to Prof. C. W. Foulk, Chemistry Department, Ohio State University, Columbus, Ohio.

Cottonseed:

Physiological value and toxicity of cottonseed and some of its products. Icie Gertrude Macy. 150 entries, by author, title, and subject. Up to 1920. For consultation, write Library, Yale University, New Haven, Conn.

Coumarin:

The Barrett Co., 40 Rector St., New York, N. Y. 72 entries, by author and subject. 1884–date. Abstracts included.

Crystallography:

Growth of crystals under pressure. Stephen Taber, Columbia, S. C. 150 entries, by author and title. Incomplete.

Cyclobutane:

Cyclobutane derivatives. L. L. Steele, Bureau of Standards, Washington, D. C. 66 entries. Up to 1914. Abstracts of methods of preparation are included.

Dihydroxybutyric Acids:

J. W. E. Glatfield, University of Chicago, Chicago, Ill. 26 entries. Up to 1915. Complete.

2,4-Dinitrobenzaldehyde:

Derivatives of 2,4-dinitrobenzaldehyde. Blaine B. Wescott, 1739 Lilac St., Pittsburgh, Pa. (Mt. Olive Station). Up to 1920. Very brief abstracts included. Complete.

Disinfectants:

See Insecticides and Fungicides; Poisons (Gray).

Distillation:

Distillation: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries by author and subject. 1907–1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Fractional distillation. E. H. Leslie, University of Michigan, Ann Arbor, Mich. Fairly complete.

Dolomite:

See Refractories (Schurecht).

Drugs:

Anthraquinone drugs, especially *Rhamnus frangula*. J. A. Gunton and Ruth Okey, Transylvania College, Lexington, Ky. 350 entries, by author, title, and date. 1828–1921. Abstracts included for *Rhamnus frangula*. Quite complete.

See also Arsphenamine (Flick); Epinephrine (Schultz).

Drying:

Drying: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries, by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Dyes:

American dye patents. Color Investigation Laboratory, Bureau of Chemistry, Washington, D. C. 3000 patents, cross indexed in seven ways, total cards about 35,000. Indexed under number, intermediates, chemical class, color, application to fiber, fiber on which used and owner. 1861-1921. Abstracts included. Complete to July 1921.

See also Chemistry (Mullin); Coloring Matters (Zerhaw).

Electric Welding:

James H. Gravell, 1126 S. 11th St., Philadelphia, Pa. 30,000 entries, by patent owner, number and subject. 1840-date. Abstracts included. Complete cross index of welding as disclosed in United States patents.

Electrochemistry:

The battery industry. Union Carbide & Carbon Research Laboratories, Inc., Long Island City, N. Y. 100 entries, by author.

The carbon industry. Union Carbide and Carbon Research Laboratories, Inc., Long Island City, N. Y. 185 entries, by author.

See also Industrial Chemistry (Strong); Pitch Coke (The Barrett Company).

Enamels:

Enamels, enameling, and enameling raw materials. A. D. Landrum, 720 Electric Bldg., Cleveland, Ohio. Entries by author and title, and cross indexed in some cases by subject. Complete to 1918.

Epinephrine:

Adrenalin and adrenalin-like bodies. W. H. Schultz, University of Maryland Medical School, Baltimore, Md. 1500 entries, by author. 1883-1909. Abstracts included in part.

Esters:

Alcoholysis of esters. Jesse E. Minor. For consultation write Dr. Roger F. Brunel, Bryn Mawr College, Bryn Mawr, Pa. Published in part.

Evaporating Apparatus:

See Heat Transmission (Badger).

Explosives:

Charles E. Munroe, National Research Council, Washington, D. C. 5000 entries, chronologically by author. 1665-1907. Abstracts included. One-tenth complete.

Extraction:

Extraction: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Fats and Oils:

Bleaching of vegetable oils with various earths and blacks. B. H. Thurman, 297 Fourth Ave., New York, N. Y. 1911-1921. 85 per cent complete.

Edible oils and fats. Library of Congress, Washington, D. C. 308 entries, by author. Up to 1918.

Fats and oils. Herbert S. Bailey, Head Laboratory, Southern Cotton Oil Co., Savannah, Ga. 500 entries. 1890-1918. Abstracts included in many instances. Nearly complete.

Fats and oils. George S. Jamieson, Oil, Fat and Wax Laboratory, Bureau of Chemistry, Washington, D. C. 1915-date. Brief abstracts in a few cases. References mostly from *Chemical Abstracts*.

Refining vegetable oils. Charles Baskerville. Incomplete.* For consultation, write Library, College of the City of New York, New York-N. Y.

See also Castor Oil, etc.; Hydrogenation, Viscosity.

Feldspars:

Physical and chemical nature of the feldspars. Harold L. Alling, University of Rochester, Rochester, N. Y. 107 entries, by author and subject. 1300 chemical analyses.


Ferro-Alloys:

See Alloys (Estes).

Filters:

Filters and filtration. J. Edward Porter, Box 785, Syracuse, N. Y. 3000 entries, by author, title, and subject. 1900-1915. Includes patents.

Fireproofing:

 *See* Waterproofing (Fenn).

Fish:

See Piscatorial Chemistry.

Flax:

Department of Technical Control, American Writing Paper Co., Holyoke, Mass. 163 entries. 1880-1920. Abstracts included. Everything available.

Flesh:

Amino acid distribution of flesh. E. G. Sieveking. 31 entries by author and title. 1899-1922. Abstracts included. Fairly complete. For consultation, write C. R. Moulton, 105 Schweitzer Hall, Columbia, Mo.

Nitrogen distribution in flesh (proteins). W. S. Ritchie. 12 entries by author and title. 1900-1922. Abstracts separate but available. Complete, especially with regard to edible flesh. For consultation, write C. R. Moulton, 105 Schweitzer Hall, Columbia, Mo.

See also Meat.

Fluorene:

The Barrett Co., 40 Rector St., New York, N. Y. 261 entries, by author and subject. 1867-date. Abstracts included.

Food:

Conservation, production, and economic use of foods. Library of Congress, Washington, D. C. 192 entries, by author. Up to 1917.

Food in relation to health, food rationing, dietetics, etc. Library of Congress, Washington, D. C. 143 entries, by author. Up to 1918.

Fungi:

Physiology of fungi (biochemical). C. U. Frey, 103 W. 183rd St., New York, N. Y. 150 entries, by author and subject. 1880-1916. Abstracts included in some cases.

Fungicides:

See Insecticides and Fungicides; Poisons (Gray).

Gas(es):

Gases. M. C. Smith. 12,000 entries, by title, subject, and properties, with attached author list. Few before 1880, since 1900 fairly covered. Brief abstracts and comments in some cases, tabulated data in some, a few critically covered. Everything of probable interest in connection with gas chemistry: physical properties, chemical reactions, manufacture, analysis, commercial application, etc. Conveniently arranged and indexed. For consultation, write Chemistry Section, Bureau of Standards, Washington, D. C.

Diffusion of gases through hot solids. B. Clifford Hendricks, 302 Chemistry Hall, University of Nebraska, Lincoln, Neb. 50 entries, by author, title, and subject. 1863-1920. Abstracts included for practically all references. 75 per cent complete.

Gas absorption: machinery, process, theory. Edwin M. Baker, University of Michigan, Ann Arbor, Mich. Entries by author and subject. 1907-1919. Abstracts included for more important articles. Does not include patents; otherwise all articles listed in *Chemical Abstracts*.

Preparation, chemical, and physical properties of gases. Gas Section, Bureau of Standards, Washington, D. C. 10,000 entries, by author and subject. 1800-date. Short abstracts included in a large number of cases. About complete.

Gelatin:

E. T. Oakes, 85 Ninth Ave., New York, N. Y. 350 entries, by author, title, and subject. Up to date. Abstracts included.

See also Glue (Alexander), (Thiele).

Germanium:

Chemistry of germanium. Frank W. Douglas, Colorado College, Colorado Springs, Colo. Up to 1919.

Gilsonite:

See Petroleum (Carmichael).

Ginger:

Arthur D. Little, Inc., Cambridge, Mass. 20 entries, by author.

Glass:

Alexander Silverman, University of Pittsburgh, Pittsburgh, Pa. 6000 entries, by author and subject. 1822-1914. Practically complete.

See also Sand (Richardson).

Glue:

Glue and gelatin. James Alexander, 255 W. 108th St., New York, N. Y. To appear in an AMERICAN CHEMICAL SOCIETY monograph on this subject.

Glue and gelatin, including testing, chemical and physical methods, complete patent literature, and statistics. L. A. Thiele, Upper-Sandusky or Columbus, Ohio. 2000 entries, including 500 patents, by author and subject. 1814-1920. Abstracts included in part. Very nearly complete.

See also Casein (Snell).

Graphite:

H. G. Ferguson, U. S. Geological Survey, Washington, D. C. Entries by author, subject, and locality. Abstracts included in part. Complete to 1919.

See also Refractories (Schurecht).

Grignard Reaction:

C. W. Porter, University of California, Berkeley, Calif. 500 entries. 1900-1921. Many important contributions and some of no value.

Gypsum:

Frank A. Wilder, North Holston, Va. 600 entries by author, title, and subject. Four-fifths complete. To be published in monograph of Iowa Geological Survey.

Heat Transmission:

Heat transmission: evaporating and heating apparatus. W. L. Badger, University of Michigan, Ann Arbor, Mich. 2000 entries, by author and subject. 1850-date. Abstracts included. 25 per cent complete.

Heating Apparatus:

See Heat Transmission (Badger).

Heterogeneous Equilibria:

E. C. McKelvy and L. Yurow. Thousands of entries, by author and subject. Up to 1919. Abstracts and critical comments in many cases. Much data tabulated and plotted. Incomplete, especially for later years. For consultation, write Bureau of Standards, Washington, D. C.

Hydrocyanic Acid:

See Insecticides and Fungicides.

Hydrogen:

Low temperature research; liquefaction of hydrogen and properties of liquid hydrogen. J. C. McLennan, University of Toronto, Toronto, Canada. 1898-1920. Some abstracts included.

Hydrogenation of Oils:

Charles Baskerville. Incomplete². For consultation, write Library, College of the City of New York, New York, N. Y.

Hydrotherapy:

Influence of bathing on metabolism. H. A. Mattill, University of Rochester, Rochester, N. Y. 200 entries, by author. 1890-date. Abstracts usually included. Probably all the important contributions.

Industrial Chemistry:

Industrial inorganic, organic, electro, and combustion chemistry. R. K. Strong, Reed College, Portland, Ore. Entries by subject. 1896-date.

Inorganic Chemistry:

See Industrial Chemistry (Strong).

Insecticides and Fungicides:

J. J. Davis, Purdue University, Lafayette, Ind. 4000 or more entries by subject. 1860-date. Abstracts included in some cases. Fairly complete.

Chemical composition of proprietary insecticides and fungicides and chemical composition and disinfectant action of proprietary disinfectants. J. K. Haywood, Insecticide and Fungicide Board, U. S. Department of Agriculture, Washington, D. C. 9500 entries, by subject. 1910-date. 90 to 95 per cent complete. Cannot be consulted or duplicated, but information will be given state and government scientists in exceptional cases, on understanding that results will not be made public.

Fumigation with hydrocyanic acid gas. E. R. Sasscer and R. S. Woglum. Entries by author. Very complete up to 1920. Abstracts included in a few cases. For consultation, write E. R. Sasscer, Federal Horticultural Board, Washington, D. C.

Lime sulfur as a spray. V. I. Safro. 612 entries, by author. Earliest references up to and including 1911. Abstracts included. Very complete. For consultation, write Department of Entomology, Oregon Agricultural College, Corvallis, Ore.

Miscible oil sprays in combination with other spray materials. Leroy Childs, Hood River, Ore. Well started.

Organic insecticides and fungicides, including hydrocyanic acid, chloropicrin, and others. Clarence J. West, National Research Council, Washington, D. C. 300 entries, by author. Three-fourths complete.

See also Lead Arsenate (Dickey); Poisons (Gray).

Iron:

Effects of sulfur and phosphorus on the properties of iron and steel. 350 entries, by author (35 typewritten pages). For consultation, write joint committee on phosphorus and sulfur in steel, attention of H. L. Whittenmore, Bureau of Standards, Washington, D. C.

Iron ores. R. J. Holden, Virginia Polytechnic Institute, Blacksburg, Va. To be published by the Virginia Geological Survey.

Iron ores of the United States. E. C. Harder, 1111 Harrison Bldg., Philadelphia, Pa. Entries by author and locality. Moderately complete to 1919, inclusive.

Malleable cast iron. E. S. Davenport. 38 entries, by author. 1914-1922. For consultation, write Eastern Malleable Iron Co., Naugatuck, Conn.

Malleable iron. A. E. White, University of Michigan, Ann Arbor, Mich. 83 entries. 1910-1921. Includes most of the pertinent books and articles bearing on the subject.

See also Lead Coatings (Berolzheimer).

Kapok:

Arthur D. Little, Inc., Cambridge, Mass. 22 entries, by author.

Kauri Gum:

Arthur D. Little, Inc., Cambridge, Mass. 14 entries, by author.

Lactose:

Lactose (milk sugar): scientific and industrial. Harper F. Zoller, 3345 Grand River Ave., Detroit, Mich. 44 entries. Up to 1922.

Lead Arsenate:

Corona Chemical Division, Pittsburgh Plate Glass Co., Milwaukee, Wis. 80 entries, by author, title, and subject. 1819-1916. A few abstracts included. 85 per cent complete. For consultation, write C. B. Dickey, Superintendent.

Lead Coatings:

Lead coatings on iron and steel. D. D. Berolzheimer. Entries by author and title. 1904-1914. Thorough for years covered, including a few older references. For consultation, write National Lead Co., 129 York St., Brooklyn, N. Y.

Leather:

Leather and tanning chemistry, tanning materials, etc. J. S. Rogers Morgantown, N. C. 300-400 entries. 1909-1917. Abstracts included in some cases. Not very complete.

Light:

See Photochemistry.

Lime:

The uses of lime. M. E. Holmes, 918 G St., N. W., Washington, D. C. Several hundred entries, by subject. 1920-date. Very brief abstracts included. Complete.

Low Temperature Carbonization:

The Barrett Co., 40 Rector St., New York, N. Y. 154 entries, by author, subject, and patents. 1873-date. Abstracts included.

Carbonization of coal, particularly low temperature carbonization. Roland P. Soule. 300-400 entries, by subject. 1860-1922. Abstracts included. Very complete on low temperature carbonization and theories of carbonization. For consultation, write Prof. J. J. Morgan, Havemeyer Hall, Columbia University, New York, N. Y.

Lubricating Oils:

See Petroleum (Smith).

Magnesite:

See Refractories (Schurecht).

Maltose:

Maltose in acid-hydrolyzed starch products. L. F. Hoyt, Larkin Co., Inc., Buffalo, N. Y. 66 entries, by author, title, and subject. 1812-1913. Complete as facilities permit.

Marine Borers:

See Wood Preservation (West).

Meat:

Dried meat. Arthur D. Little, Inc., Cambridge, Mass. 22 entries, by author.

Meat packing industry. Library of Congress, Washington, D. C. 150 entries, by author. Up to 1920.

See also Flesh.

Mesothorium:

Herman Schlundt, 303 Hicks Ave., Columbia, Mo. 55 entries, by author. 1907-1920 85 per cent complete.

Metabolism:

Animal nutrition, calorimetry. H. F. Armsby, State College, Pa. 12,177 entries, by subject mostly, many by author and title. 1870-1922. Abstracts included. Very complete in references to plants—culture, fertilizer, etc., field crops; general science—animal physiology, metabolism; foods, animal—nutritive value, animal products.

Carbohydrate metabolism and physics and chemistry of the blood. E. L. Scott, 437 W. 59th St., New York, N. Y. 3500 entries, by title and subject. From earliest literature to date. Abstracts included in about 50 per cent. 25 per cent complete.

Digestion and assimilation of fat; digestion, fasting, and pathological lipaemia. S. H. Gage, Stimson Hall, Ithaca, N. Y.

Fate of foreign organic compounds in the animal body, and synthesis of amino acids in the body. Carl P. Sherwin, Fordham University, New York, N. Y. 2000 entries. 1912-date.

Influence of mineral waters on metabolism. H. A. Mattill, University of Rochester, Rochester, N. Y. 150 entries, by author. 1890-date. Abstracts usually included. All important contributions.

Metabolism of chickens and nutritive requirements. H. A. Mattill, University of Rochester, Rochester, N. Y. 200 entries, by author. 1890-date. Abstracts included in about one-half the entries. 75 per cent complete.

Metabolism of mineral matter. H. A. Mattill, University of Rochester, Rochester, N. Y. 600 entries, by subject. 1906-date. Abstracts usually included. 90 per cent complete.

Nutrition. J. F. McClendon, 815 Fulton St., S. E., Minneapolis, Minn. More than 1000 entries, by subject. 1918-date. Abstracts included

Nutrition, bread, and allied topics. C. E. Halstead, Ward Baking Co., New York, N. Y. Entries by author and subject. 1850-date. Abstracts frequently included. 90 per cent complete.

Protein storage in protoplasmic tissue. W. S. Ritchie. Entries by author and title. 1898-1922. Rather complete. For consultation, write C. R. Moulton, 105 Schweitzer Hall, Columbia, Mo.

See also Cholesterol (Arnold); Hydrotherapy (Mattill); Proteins (Mattill).

Metallurgy:

Mining, metallurgy, geology. H. O. Hofman, Massachusetts Institute of Technology, Cambridge, Mass. Hundreds of entries, by author. 1885-1920. All leading articles in periodicals.

Methanol:

Charles Baskerville. Incomplete.² For consultation, write Library, College of the City of New York, New York, N. Y.

Mildewproofing:

See Waterproofing (Fenn).

Milk Secretion:

Biochemistry of milk secretion and related nutritional topics. Edward B. Meigs, Dairy Division, Experiment Station, Beltsville, Md. 550 entries, by author. 1850-date. A few abstracts included. No attempt at completeness.

Mineral Matter:

See Metabolism (Mattill).

Mineral Waters:

See Metabolism (Mattill).

Motor Fuels:

Motor fuels and petroleum. E. H. Leslie, University of Michigan, Ann Arbor, Mich. Several thousand entries, by author and subject. Up to date. Abstracts included on many of the cards. Literature and patents are covered thoroughly.

See also Alcohol (Leslie).

Naphthalene:

Homologs of naphthalene. The Barrett Co., 40 Rector St., New York, N. Y. 142 entries, by author and subject. 1869-date. Abstracts included.

Naval Stores:

Naval stores (turpentine and rosin). A. W. Schorger. 5000 entries (572 typewritten pages) by author and subject. Up to 1912. Abstracts included. Every available article read and abstracted. Important articles translated or long abstracts made and deposited in files, with file number given in the bibliography. For consultation write Forest Products Laboratory, Madison, Wis.

Nitric Acid:

See Nitrogen Fixation (Zeisberg).

***p*-Nitrobenzaldehyde:**

C. G. King. 1860-1920. Entries by author and names of compounds. American, English, and German abstract journals covered. For consultation, write Library, University of Pittsburgh, Pittsburgh, Pa.

Nitrogen Fixation:

American Cyanamid Co., 511 Fifth Ave., New York, N. Y. Not complete.

Nitrogen fixation, nitric acid manufacturing, nitric acid concentration. Fred C. Zeisberg, E. I. du Pont de Nemours & Company, Wilmington, Del. 1500 entries, by subject. Abstracts included. All U. S. patents and a number of literature references. 75 per cent complete.

Production of synthetic nitric acid and synthetic ammonia. Engineering Societies Libraries, New York, N. Y. 837 entries. 1788-1917. Abstracts included.

Nitro-*o*-phthalic Acid:

See Phthalic Acid (Bogert).

Nutrition:

See Metabolism; Proteins (Mattill).

Occupational Diseases:

Occupational diseases in chemical trades. Charles Baskerville. Incomplete. For consultation write Library, College of the City of New York, New York, N. Y.

Oil(s):

See Fats and Oils, Castor Oil, Hydrogenation, Viscosity, Oil Shale, Wood-tar.

Oil Shale:

Oil shale and shale oil. R. H. McKee, E. E. Lyder, and R. T. Goodwin, Department of Chemical Engineering, Columbia University, New York, N. Y. 450 entries, by authors. 1825-July 1921. Abstracts included. Complete as possible. Will appear in AMERICAN CHEMICAL SOCIETY monograph on this subject

Oil shales. Eliot Blackwelder, 317 Railway Exchange Bldg., Denver, Colo. 125 entries, by author and title. Abstracts in many cases. 60 per cent complete.

Oil Sprays:

See Insecticides and Fungicides (Childs).

Optical Isomerism:

Roy B. Davis, University of the South, Sewanee, Tenn. 2500 entries, by author and subject. Up to 1917.

Organic Chemistry:

See Grignard Reaction (Porter); Industrial Chemistry (Strong); Names of Organic Compounds.

Paper:

See Pulp and Paper (Libby), (West).

Petroleum:

Emulsions in petroleum (lubricating oils). Harrison P. Smith, 615 South Virgil Ave., Los Angeles, Calif. 35 entries, by author and subject. Up to 1920. Abstracts included. Not very complete.

Geology and statistics of petroleum for the United States. G. B. Richardson, U. S. Geological Survey, Washington, D. C. Several hundred entries, by locality. The most important publications since 1900.

Latin-American petroleum. E. W. Shaw, 302 Cosden Bldg., Tulsa, Okla., or 170 Broadway, New York, N. Y. 1000 entries, by author. 90 per cent complete.

Monthly manuscript bibliography of petroleum. E. H. Burroughs, U. S. Bureau of Mines, Washington, D. C. Issued in mimeographed form. Cumulated and published annually as a Bureau bulletin.

Petroleum and natural gas. E. DeGolyer, 65 Broadway, New York, N. Y. 9000 to 10,000 entries, by author and locality. 80 per cent complete.

Petroleum and natural gas: geologic occurrence, statistics and technology. Johnson, Huntley, and Somers, Oil and Gas Bldg., University of Pittsburgh, Pittsburgh, Pa. 7000 entries, by author, subject, and locality. Fairly complete.

Oils from gilsonite. Emmett B. Carmichael, University of Colorado, Boulder, Colo. December 1920-date. Two-thirds complete.

See also Motor Fuels (Leslie); Oil Shale (McKee).

Petrology:

Chemical analyses of igneous rocks. H. S. Washington, Geophysical Laboratory, Carnegie Institution of Washington, Washington, D. C. 1913-date. Incomplete. Supplement to U. S. Geological Survey, *Professional Paper* 99.

Chemical composition of igneous rocks. Edward B. Mathews, Johns Hopkins University, Baltimore, Md. 9900 entries, by rock names and silica content. Practically complete to date.

Pharmaceutical Chemistry:

Pharmaceutical chemistry and botany. H. V. Arny. Several thousand entries. 1910-date. Abstracts included. For consultation, write College of Pharmacy, Columbia University, New York, N. Y.

Phenanthrene:

The Barrett Co., 40 Rector St., New York, N. Y. 160 entries, by author subject, and patents. 1900-date. Abstracts included.

Phenols:

Alkali-insoluble phenols. O. M. Brewster, Pullman, Wash. 88 entries. 1881-1910.

Phosphates:

Acid phosphates and superphosphates. A. Marshall, 3043 St. Paul St., Baltimore, Md. Entries by subject. 1880-date.

Manufacture and uses of dicalcium phosphate. The Grasselli Chemical Co., Cleveland, Ohio. 21 entries. Abstracts included.

Phosphate deposits. Eliot Blackwelder, 317 Railway Exchange Bldg., Denver, Colo. 415 entries by author and title. Many abstracts included. 80 per cent complete.

Soluble phosphates. Engineering Societies Libraries, New York, N. Y. 52 entries. 1878-1917. Abstracts included.

The Western phosphate field. G. R. Mansfield, U. S. Geological Survey, Washington, D. C. 160 entries, by author. Many abstracts included. 60 per cent complete. To be published later.

Phosphoric Acid:

Patents on phosphoric acid and its salts. William H. Ross, Bureau of Soils, Washington, D. C. 404 entries, by author, title and patent number. Covers whole period of U. S. Patent Office.

Phosphoric acid. Engineering Societies Libraries, New York, N. Y. 81 entries. 1876-1918. Abstracts included.

Phosphorus:

Engineering Societies Libraries, New York, N. Y. 83 entries. 1879-1917. Abstracts included.

Photochemistry:

Action of light on organic compounds, visible spectra with few references to ultra-violet spectra. H. M. McLaughlin, Iowa State College, Ames, Iowa. 332 entries, by author and subject. 1850-1921.

Chemical action of light. Clarence J. West, National Research Council, Washington, D. C. 2000 entries by author. One-half complete.

Light: theory of photochemistry and biological effects. S. C. Brooks, Hygienic Laboratory, 25th and E Sts., N. W., Washington, D. C. Entries by author and subject. Up to 1918 and occasional later entries. Abstracts usually included. 60 to 70 per cent complete.

Photosynthesis and allied subjects. H. A. Spoehr, Carmel, Calif. 450 entries, by author. 1797-1922. 95 per cent complete.

Photography:

Physics and chemistry concerned with photography. Research Laboratory, Eastman Kodak Co., Rochester, N. Y. June 1915-date. Printed cards, covering all leading periodicals. Abstracts included.

Phthalic Acid:

Mono-nitro- and monamino-*o*-phthalic acids. M. T. Bogert, Columbia University, New York, N. Y. Over 100 entries, chronological by subject. Up to 1903. Abstracts included. Practically complete.

Piscatorial Chemistry:

Biological, physiological, and technological chemistry of fishes. Harden F. Taylor, Bureau of Fisheries, Washington, D. C. Several hundred entries, by subject. No effort made to include all material found in *Chemical Abstracts*.

Chemistry of fish flesh. Lloyd H. Almy, Bureau of Chemistry, Washington, D. C. 150 entries. Very complete to 1915. Abstracts included.

Pitch Coke:

Pitch coke for carbon electrodes. The Barrett Co., 40 Rector St., New York, N. Y. 82 entries, by author and subject. 1873-date. Abstracts included.

Plant Chemistry:

Effect of nitrates on plants. H. G. MacMillan, Greeley, Colo. 396 entries, by author. 1882-date. Abstracts included in part.

Salt absorption and mineral nutrition of plants. R. B. Harvey, University Farm, St. Paul, Minn. 575 entries, by author and subject. Up to date. Abstracts included in many cases. Nearly all references commonly available.

See also Soils (Eaton); Tobacco (Gross).

Platinum:

Platinum metals. R. Gilchrist, Bureau of Standards, Washington, D. C. 200 to 250 entries, by title. January 1, 1918-date. Brief abstracts in most cases. All references in *Chemical Abstracts* included.

Poisons:

Economic poisons: substances used for the control of insects, fungi, weeds, and rodents. George P. Gray, State Department of Agriculture, Sacramento, Calif. 20,000 entries, by subject. Covers *Chemical Abstracts* 1911-1920; Experiment Station Record, Vols. 13-24.

Potash:

Potash as by-product from blast furnaces and cement mills. Western Precipitation Co., 1016 W. 9th St., Los Angeles, Calif. 100 entries, by author and title. 1904-date. Abstracts included. Complete.

Potassium Chlorate:

Decomposition of potassium chlorate. F. E. Brown and H. M. McLaughlin, Iowa State College, Ames, Iowa. 175 entries, by author, title, and subject. 1840-date. Abstracts included for about one-half. Must not pass out of owner's possession.

Proteins:

Proteins and accessory factors in nutrition. H. A. Mattill, University of Rochester, Rochester, N. Y. 750 entries, by subject. 1912-date. Abstracts usually included. 90 per cent complete.

Pulp and Paper-Making:

C. E. Libby, New York State College of Forestry, Syracuse, N. Y. 800 entries, by author, title, and subject. 1914-date. Very brief abstracts included. Covers four paper trade journals.

Manufacture, chemical, and physical properties, methods of testing, etc., of pulp and paper. C. J. West, National Research Council, Washington, D. C. 5000 entries, by author, arranged under principal paper-making subjects. One-half complete.

See also Bagasse (Little); Flax (American Writing Paper Co.).

Pyrazoline:

Pyrazoline derivatives. L. L. Steele, Bureau of Standards, Washington, D. C. 70 entries. Up to and including 1916. Abstracts included. For consultation write either to the Bureau of Standards, Washington, D. C., or Chemical Library, Harvard University, Cambridge, Mass.

Rare Earths:

Rare earths and secondary rare elements. Charles Baskerville. 25,000 entries. Not readily accessible. For consultation, write Library, College of the City of New York, New York, N. Y.

Refractories:

Clay and graphite refractories. H. G. Schurecht, Bureau of Mines, Ceramic Experiment Station, Columbus, Ohio. 75 per cent complete.

Magnesite and dolomite refractories. H. G. Schurecht, Bureau of Mines, Ceramic Experiment Station, Columbus, Ohio. 300 entries, by author, title, and subject. 1873-1921. Abstracts included. Includes six bibliographies and other references obtained from literature, being fairly complete.

Resins:

See Naval Stores (Schorger); Terpenes (Grotlich).

Roads:

Surface treatment of roads for laying dust. Arthur D. Little, Inc., Cambridge, Mass. 65 entries, by author.

Rosin:

See Naval Stores (Schorger); Terpenes (Grotlich).

Rubber:

Methods of rubber analysis. Frances McGovern, B. F. Goodrich Company, Akron, Ohio. 289 entries, by author and subject. Earliest references to 1920. Abstracts included. Considered complete.

Rubber insulated cable. Arthur D. Little, Inc., Cambridge, Mass. 15 entries, by author.

Salt:

Salt and salines. W. C. Phelan, The Solvay Process Co., Syracuse, N. Y. Entries by author, title, and locality. Complete to date.

Salt, sulfur, and salt domes. E. DeGolyer, 65 Broadway, New York, N. Y.
400 to 500 entries, by author and locality. 80 per cent complete.

Salvarsan:

See Arsphenamine (Flick).

Sand:

Glass sands. Charles H. Richardson, Syracuse University, Syracuse,
N. Y. 25 additional entries to bibliography published in 1920 in "Glass
Sands of Kentucky."

Sericin:

Arthur D. Little, Inc., Cambridge, Mass. 25 entries, by author.

Smoke:

Washing of smelter smoke. F. A. Eustis, 131 State St., Boston, Mass.
330 entries. Up to 1915. For consultation, write to compiler or
Library, Harvard University, Cambridge, Mass.

Soap:

Hydrolysis and detergency of soap. L. W. Bosart, Procter and Gamble
Co., Ivorydale, Ohio. 80 entries, by title. 1885-1921. Fairly
complete.

Sodium Silicate:

William Stericker, Mellon Institute of Industrial Research, Pittsburgh,
Pa. 400 entries, by author and subject. 1850-date. Abstracts
included.

Soils:

Sulfur content of soils and its relation to plant nutrition. Scott V. Eaton,
Department of Botany, University of Chicago, Chicago, Ill. Entries
by author and title. 1910-date. Very incomplete.

Sorrel Reaction:

See Cements (Schurecht).

Specific Heat:

Specific heat of the elements, also includes heat of fusion and other energy
changes. J. E. Mills, Edgewood Arsenal, Edgewood, Md. Entries
by author. Up to 1917.

Starch:

Hydrolysis of starch. Arthur D. Little, Inc., Cambridge, Mass. 133
entries, by author.

Steel:

Boiler tube steel. A. E. White, University of Michigan, Ann Arbor,
Mich. 17 entries. 1910-1921. Includes most of the pertinent books
and articles bearing on the subject.

See also Alloys (Estes); Iron (Joint Committee on Phosphorus); Lead
Coatings (Berolzheimer).

Storage Batteries:

Storage batteries; lead plate sulfuric acid type. Paul H. Segnitz, Vesta
Battery Corporation, 2100 Indiana Ave., Chicago, Ill. In process of
compilation.

Sugar:

Determination of sugars by reduction methods. L. F. Hoyt, Larkin Co.,
Buffalo, N. Y. 50 entries, by author, title, and subject. 1841-1913
Development of the sugar industry. Lizin A. Becnel, 1510 Arabella St.,
New Orleans, La. Numerous entries. Covers a period of 170 years.

See also Lactose (Zoller); Maltose (Hoyt).

Superphosphate:

See Phosphates (Marshall).

Surface Tension:

Jessie Y. Cann, Smith College, Northampton, Mass. Entries by author.
Abstracts included.

Tanning:

See Leather (Rogers); Tannins (Kressmann).

Tannins:

Tannins and the tanning industries. F. W. Kressmann. 3000 entries
(316 typewritten pages), by author and subject. Up to 1911. Ab-
stracts included. For consultation, write Forest Products Laboratory,
Madison, Wis.

Terpenes:

Terpenes, resins, turpentine, rosin, and their general chemistry. V. E. Grotlisch, Leather and Paper Laboratory, Bureau of Chemistry, Washington, D. C. 500 entries, by title and subject. 1914-date. Abstracts included in some cases. 75 per cent complete.

Textiles:

See Chemistry (Mullin); Waterproofing (Fenn).

Titanium:

J. F. Haskins, Ohio State University, Columbus, Ohio. 1300 entries, by author. 1789 (time of discovery) to 1921. Abstracts included. Nearly complete.

Tobacco:

Chemistry and manufacture of tobacco. Paul Gross, Trinity College, Durham, N. C. Entries by author and subject. 1850-date (in chemistry); 1700-1919 (in manufacture). Abstracts included in a large portion of the chemistry section. Chemistry section about one-half complete.

Turpentine:

See Naval Stores (Schorger); Terpenes (Grotlisch).

Vanilla:

Vanilla extract. Arthur D. Little, Inc., Cambridge, Mass. 17 entries, by author.

Vegetable Oils:

See Fats and Oils (Thurman).

Viscosity:

Viscosimeters and viscosity (on oils). Charles A. Mann, University of Minnesota, Minneapolis, Minn. 200 entries, by author, title, and subject. Up to 1914. Very complete.

Viscosity: (a) General, (b) Rubber solutions. G. D. Kratz, The Falls Rubber Co., Cuyahoga Falls, Ohio. Several hundred entries. 1900-1915. Abstracts in almost all cases.

Viscosity (fluidity, plasticity, lubrication). Eugene C. Bingham, Lafayette College, Easton, Pa. 2000 entries, by author. 1500-1921. Complete as possible.

Vitamins:

Walter H. Eddy, Teachers College, Columbia University, New York, N. Y. 800 entries, by author. 1906-1921. Fairly complete. Partially published in his "Vitamin Manual."

J. F. McClendon, Medical School, University of Minnesota, Minneapolis, Minn.

Volumetric Chemical Analysis:

Volumetric chemical analysis, including colorimetric, gasometric, and epimetric methods. Launcelot W. Andrews, Williamstown, Mass. 17,000 to 20,000 entries, by author, title, and subject. 1847-1914. 1914-date, fragmentary. Brief abstracts included.

Water Glass:

See Sodium Silicate (Stericker).

Waterproofing:

Waterproofing, mildewproofing, and fireproofing of cotton, linen, and burlap fabrics in the heavier weights. Herbert B. Fenn, Metakloth Co., Lodi, N. J. 1868-1920. Abstracts included in some cases. Far from complete.

Water Softening:

See Zeolites (Bartow).

Waters:

Hydrogen-ion concentration of natural waters. F. C. Mortensen, Coe College, Cedar Rapids, Iowa. Abstracts in preparation. Complete.

Wheat:

Wheat milling and baking chemistry and chemical technology. C. H. Bailey, University Farm, St. Paul, Minn. Entries by author and subject. 1900-date. Abstracts included in one-third to one-half of the entries. Nearly complete.

Wood:

The acid hydrolysis of wood. E. C. Sherrard, Forest Products Laboratory, Madison, Wis. 150 entries, by author and subject. 1819-date. Abstracts included. Incomplete. A part is to be published soon in a departmental bulletin.

Wood Preservation:

Wood preservation, with specific reference to protection against marine borers. Clarence J. West. 1000 entries, by author. Two-thirds complete. For consultation, write Committee on Marine Borer Investigation, National Research Council, Washington, D. C.

Wood Tar:

Wood tar and wood-tar oils. The Barrett Co., 40 Rector St., New York, N. Y. 128 entries, by author and subject. 1871-date. Abstracts included.

Zein:

Chemistry of zein. Arthur D. Little, Inc., Cambridge, Mass. 15 entries, by author.

Zeolites:

Use of zeolites in water softening. Edward Bartow and G. C. Baker, State University of Iowa, Iowa City, Iowa. 214 entries, by author. 1907-1921. Abstracts included. Practically complete.

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